



## PATENT COOPERATION TREATY

# PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>DB3632_JS</b>	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. <b>PCT/FR2004/000927</b>	International filing date (day/month/year) <b>15.04.2004</b>	Priority date (day/month/year) <b>17.04.2003</b>	
International Patent Classification (IPC) or national classification and IPC			
Applicant <b>SAINT-GOBAIN CENTRE DE RECHERCHES ET D'ETUDES EUROPEEN</b>			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <b>5</b> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
<input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
<input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:
<input checked="" type="checkbox"/> Box No. I Basis of the report
<input type="checkbox"/> Box No. II Priority
<input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI Certain documents cited
<input type="checkbox"/> Box No. VII Certain defects in the international application
<input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/FR2004/000927

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

international search (Rule 12.3 and 23.1(b))  
 publication of the international application (Rule 12.4)  
 international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

the international application as originally filed/furnished  
 the description:  
 pages 1-9 as originally filed/furnished  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the claims:  
 nos. 1-22 as originally filed/furnished  
 nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

the drawings:  
 sheets 1/3-3/3 as originally filed/furnished  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (specify): \_\_\_\_\_  
 any table(s) related to sequence listing (specify): \_\_\_\_\_

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (specify): \_\_\_\_\_  
 any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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## 1. Statement

Novelty (N)	Claims	1-22	YES
	Claims	—	NO
Inventive step (IS)	Claims	—	YES
	Claims	1-22	NO
Industrial applicability (IA)	Claims	1-22	YES
	Claims	—	NO

## 2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

D1: FR-A-2 642 694 (N PROIZV OB TULATSCHERMET)  
10 August 1990 (1990-08-10);

D2: US-A-4 157 898 (CICHY PAUL ET AL) 12 June 1979  
(1979-06-12).

The present application does not fulfil the requirements set forth in PCT Article 33(1) because the subject matter of claims 1-22 does not involve an inventive step as defined in PCT Article 33(3).

Document D1, which is considered to be the prior art closest to the subject matter of claim 1, describes (page 5, line 4 to page 10, line 21, examples 6-10, table 1; examples 1-6, table 2) fused ceramic grains consisting of corundum crystals surrounded by an MgO-Al<sub>2</sub>O<sub>3</sub> spinel phase that has high abrasive power.

What is more, document D1 describes fused ceramic grains containing between 8 and 10% by weight of the spinel phase (see example 10, table 1). This must correspond to

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more than 2.2% by weight of MgO (2.27 to 2.83% according to the applicant in the letter dated 25 April 2005).

The subject matter of claim 1 differs from these known ceramic grains in that:

- the impurity contents are defined.

However, it is clear from the description in the present application (page 4, lines 22-28) that it is already known that silica and sodium oxide are harmful and that their content must be restricted.

The applicant has argued (in the letter dated 25 April 2005) that a person skilled in the art would have been dissuaded from using example 10 in D1 because the passage on page 10, lines 4 to 6, of D1 explains that when the spinel phase content is greater than 7.5% by weight, the abrasive power of the grains is considerably diminished. It follows that, even if a person skilled in the art had known the effect of restricting the silica content, he/she would not have combined such teaching with that in example 10 in D1. This argument appears to be plausible. However, the selection of an MgO content range of 2.2 to 6.5% does not appear to lead to any surprising technical effects. The results of tests A and B in example 5 (MgO content = 1.75%) are better than the results in some examples where the MgO content is 2.2 to 6.5%. As a result, the selection of an MgO content range of 2.2 to 6.5% by weight appears to be arbitrary.

Claims 2-22 do not contain any features which, in

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combination with the features of any one of the claims to which they refer, might define subject matter that fulfils the PCT requirement of inventive step (see documents D1 and D2 and the corresponding passages cited in the search report).